Each

Dart Aerospace Ltd. Tuesday, 2/26/2008 8:00:01 AM Kim Johnston **Process Sheet** : BRACKET ASSEMBLY Customer : CU-DAR001 Dart Helicopters Services **Drawing Name** Job Number : 37610 : 10278 Estimate Number : D3121141 Part Number P.O. Number · D3121 REV E : 2/26/2008 S.O. No. :: **Drawing Number** This Issue : N/A Prsht Rev. : NC Project Number : MACHINED PARTS : E : 11 **Drawing Revision** Type First Issue : 36663 Material Previous Run : 3/28/2008 24 Um: Due Date Written By Checked & Approved By New issue KJ/DS Comment : Est Rev:Pick:A Est Rev:B ECN 1060 07-11-12 DD verified by: EC **Additional Product** Job Number: Description: Seq. #: M174B1000X02000 17-4 SS Bar 1.0 Comment: Qtv.: 0.5775 f(s)/Unit Total: 13.8600 f(s) M 102476 - 4 maks Material: 17-4 SS Bar per AMS 5604/5643 (M17-4-B1.000x02.000) Identify for D3121-111 Opports Batch: /// 2.0 BAND SAW Comment: BAND SAW Cut blanks: (1.000" x 2.000") 6.600" long HAAS1 3.0 Comment: HAAS CNC VERTICAL MACHINING #1 1-Machine D3121-111 as per Folio FA361 and Dwg D3121Identify as D3121-111

INSPECT PARTS AS THEY COME OFF MACHINE

4.0

2-Deburr

QC2

3-Scribe batch number

PARTS AS THEY COME OFF MACHINE

Dart Aerospace Ltd

W/O: WORK ORDER CH			HANGES	ANGES				
DATE	STEP	PROCEDURE CHANGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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		•						

Part No: D3121-141 PAR #: NA Fault Category: Pod (Mahines All NCR: Yes) No DQA: Date: Obulous

QA: N/C Closed: D Date: Obulous

NCR: 31	7610	W	ORK OR	DER NON-CONFORMANCE	(NCR)			
DATE	STEP	Description of NC Section A	Initial Chief Eng	Corrective Action Section B Action Description Chief Eng	Sign &	Verification Section C	Approval Chief Eng	Approval QC Inspector
08/03/01	3,0	Correctly. The part came of the jig. Q.C. Mahad		Make Sive the parts are clamp trongly. At x2 Scrap and disturt # 19478	02/03/03	orlads	Den	00000
<i>૦ ર્ગ</i> જી	30	one Blank was cut too Short. P.(Hereman eron	Esin	SCRAFI and Debuy	DJP 08/03/03	solos/os	855-12	22/4/1/23
				* · · · · · · · · · · · · · · · · · · ·				-

NOTE: Date & initial all entries

Tuesday, 2/26/2008 8:00:01 AM Date: User: Kim Johnston **Process Sheet Drawing Name: BRACKET ASSEMBLY** Customer: CU-DAR001 Dart Helicopters Services Part Number: D3121141 - Job Number: 37610 Job Number: Description: Seq. #: Machine Or Operation: SECOND CHECK 5.0 QC8 Comment: SECOND CHECK D312121 6.0 Comment: Qty.: 1.0000 Each(s)/Unit Total : 24.0000 Each(s) Pick: Description Batch Bolt <u>B</u> 3747 & **Qty Part Number** 1 D3121-21 B 37879 08/04/01/24 7.0 D3121241 Bearing Assembly 1.0000 Each(s)/Unit Comment: Qty.: Total: 24.0000 Each(s) Pick: Description Batch Qty Part Number 1 D3121-241 Bearing Ass SMALL FAB 1 8.0 Comment: SMALL & MEDIUM FAB RESOURCE 1 Assemble D3121-141 as per Dwg D3121. INSPECT WORK TO CURRENT STEP 9.0 QC5 Comment: INSPECT WORK TO CURRENT STEP PACKAGING RESOURCE #1 10.0 Comment: PACKAGING RESOURCE #1 Identify and Stock Location: 11.0 QC21 Comment: FINAL INSPECTION/W/O RELEASE Job Completion

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES										
DATE	STEP	PROCEDURE CHANGE			Ву	Ву	Ву	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspecto
			·									
Part No	:	PAR #:	Fault Category:	NC	R: Yes	No DQ	A:	_ Date: _				
					QA:	N/C Close	d:	_ Date: _				

NCR:			WORK OR	ORDER NON-CONFORMANCE (NCR)					
		Description of NC		Corrective Action Section B		Verification		Ammanal	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approval QC Inspector	
		e e e e e e e e e e e e e e e e e e e							
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NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	37610
Description: Bracket	Part Number:	D3121-111
Inspection Dwg: D3121 Rev: E		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.392	+0.002/-0.000				-	
0.75	+/-0.030	392				
		0.7515				
0.375	+/-0.010	0.345				1-bross
2.14	+/-0.030	2,130				
1.96	+/-0.030	1,964				milio
0.280	+/-0.010	0.271	<u> </u>			
3.330	+/-0.010	3.325	- J			
3.630	+/-0.010	3.625				
R0.25	+/-0.030	0.260	/			
R0.375	+/-0.010	0.375	/			
Ø0.201	+0.005/-0.000	Ø0.201				
0.100	+/-0.010	0.110	/	•		
4.580	+/-0.010	4.577	/			
6.18	+/-0.030	6.192		`		
5.89	+/-0.030	5.888	/			
0.080	+/-0.010	.079	1			
0.300	+/-0.010	.299			·	
30°	+/-0.1°	30°				
R0.25	+/-0.030	0.250	•			
0.130	+/-0.010	01130	-		•	
0.664	+/-0.010	0.664	/			•
0.381	+/-0.010	0.390				
0.201	+/-0.010	0.203				
0.400	+/-0.010	0.396				
0.580	+/-0.010	0.588				
100°	+/-0.1°	1000				
0.032	+0.000/-0.010	0.024	✓			

Measured by:	Audited by:	SM	Prototype Approval:	N/A
Date: 08/03/01	Date:	08/03/01	Date:	N/A

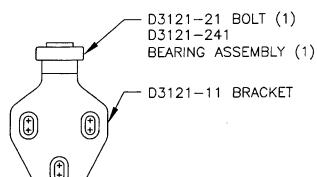
Rev	Date	Change	Revised by	Approved
Α	04.01.12	New Issue P/O D3121-141	KJ/RF	
В	04.05.05	Dimensions changed/re-arranged per Dwg revision	KJ/JLM	
С	06.06.14	Dwg Rev. updated	KJ/JLM	
D	08.01.16	Dimensions updated per Dwg Rev. E	KJ/EC/DD	
_ D_	08.01.16	Dimensions updated per Dwg Rev. E	KJ/EC/DD	- 1



DESIG	n 4	DRAWN BY	DART AEROSPA HAWKESBURY, ONTARIO,	
CHEC	KED	APPROVED	DRAWING NO.	REV. E
	4		D3121	SHEET 1 OF 10
DATE			TITLE	SCALE
07.1	11.07		BRACKET ASSEMBLY	1:2
 Α		02.04.15	NEW ISSUE	

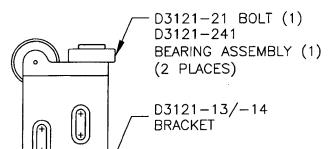


07.11.07		BRACKET AGGEMBET
Α	02.04.15	NEW ISSUE
В	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146
С	04.02.17	ADD CLEARANCE; USE -241 BEARING
D	06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000
E	07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)



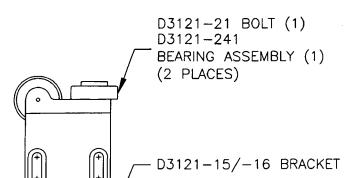
D3121-041 BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-33)



D3121-043 (SHOWN) / D3121-044 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-37/-38)



D3121-045 (SHOWN) / D3121-046 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-25000-35/-36)

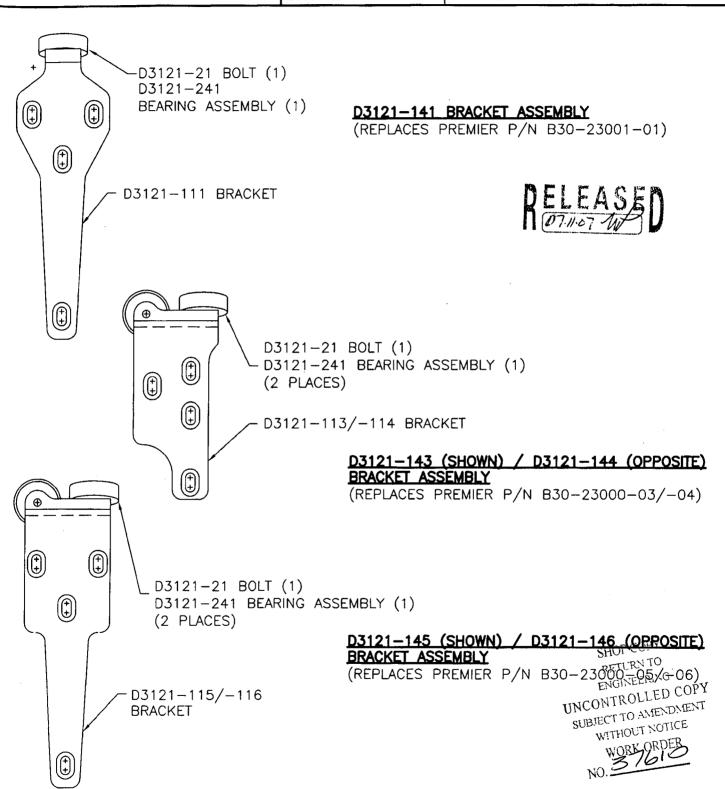
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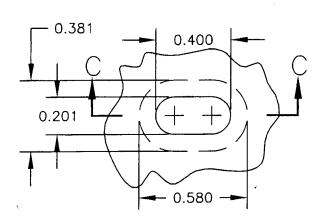
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07.11.07		BRACKET ASSEMBLY	1:2

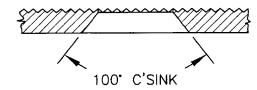




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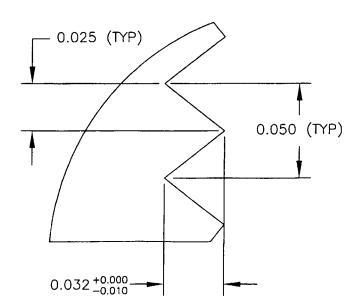






SECTION C-C

DETAIL B: RIDGE DETAIL PARTIAL SECTION SCALE 1:20

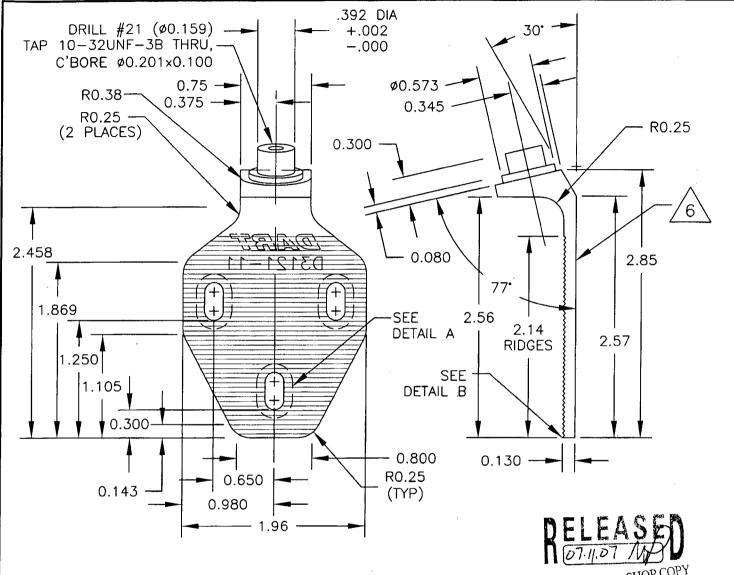


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07.11.07		BRACKET ASSEMBLY	1:1



D3121-11 BRACKET

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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4	#	D3121	SHEET 5 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



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D3121-13

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2.63

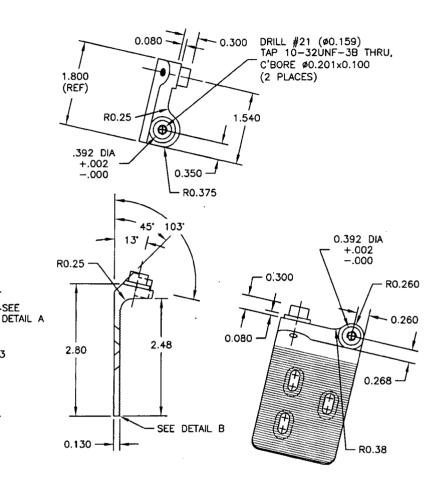
6

1.280

0.960

0.330

0.400



D3121-13 BRACKET (SHOWN) D3121-14 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE STRENGTH = 150 ksi MIN YIELD TENSILE STRENGTH = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

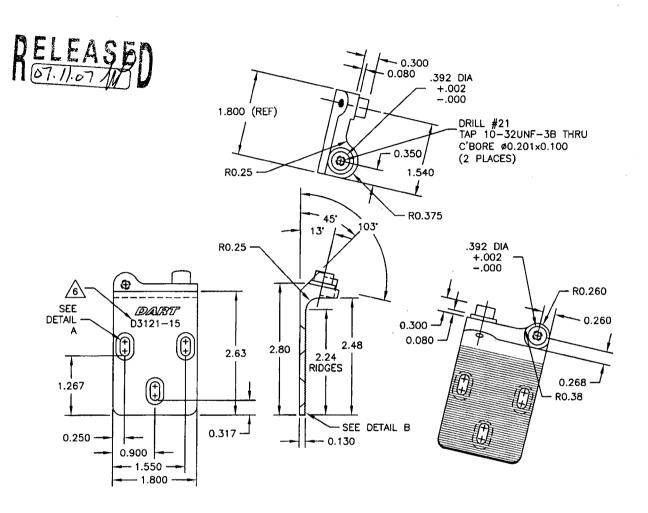
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DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



D3121-15 BRACKET (SHOWN) D3121-16 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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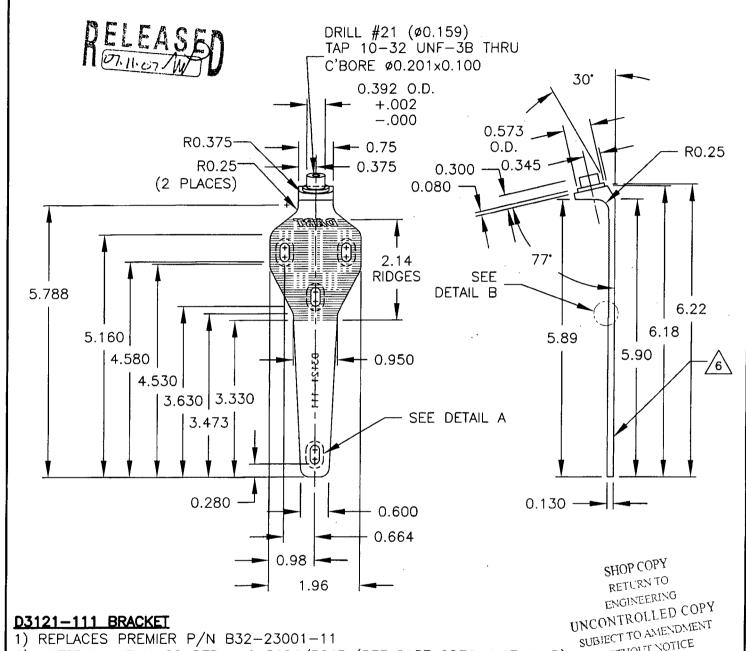
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DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2

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NO..



D3121-111 BRACKET

1) REPLACES PREMIER P/N B32-23001-11

2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE = 150 ksi

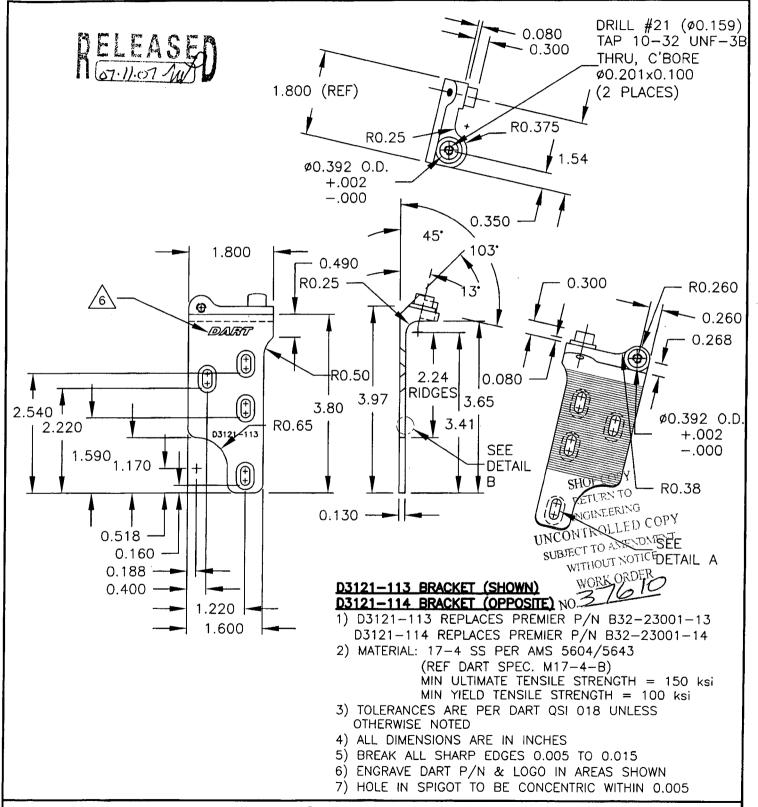
MIN YIELD TENSILE = 100 ksi

- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHEWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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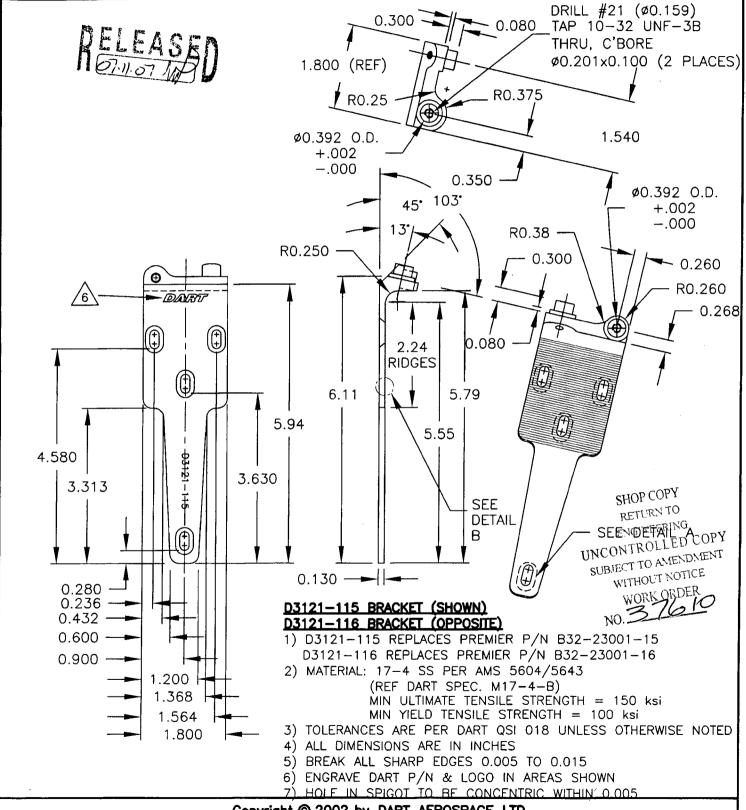
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DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



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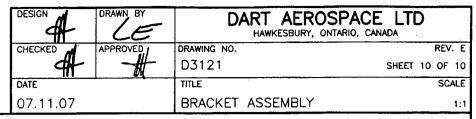


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4	-#	D3121	SHEET 9 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSE	MBLY 1:2



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D3121-21 BOLT (SCALE 1:1)

OTHERWISE NOTED

4) ALL DIMENSIONS ARE IN INCHES

1) MATERIAL: AISI 303 SS HEX, ANNEALED

TAP 10-32

UNF-3A

- 0.050 TO 0.060

- 0.080

(REF DART SPEC. M303H0.500)

0.315

/D\ 1.000 0.838

R0.063

±0.002

R0.010

0.865

±0.001

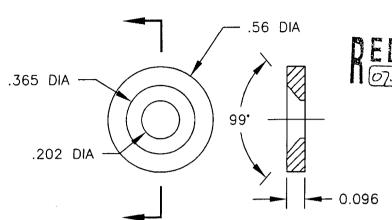
3) TOLERANCES ARE PER DART QSI 018 UNLESS

5) BREAK ALL SHARP EDGES 0.005 TO 0.015

0.230±0.001

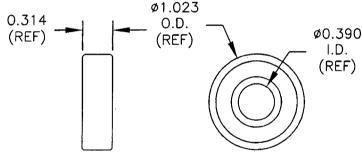
0.375 -

2) FINISH: NONE



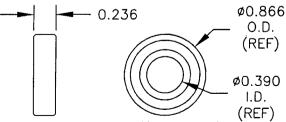
D3121-17 WASHER (SCALE 2:1)

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-19 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES



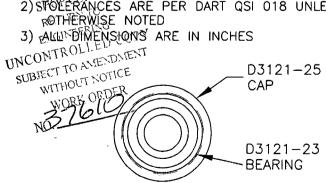
D3121-23 BEARING (SCALE 1:1)

1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-ZZ

DIMENSIONS ARE IN INCHES

D3121-25 CAP (SCALE 1:1) 1) MATERIAL: DELRIN ROD, Ø1.25

- 2) STORERANCES ARE PER DART QSI 018 UNLESS



D3121-241 BEARING ASSEBLY (SCALE 1:1)

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